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DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
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FUNDING COMMITTEE REPORT AND RECOMMENDATIONS

for the meeting of the
COMMISSION ON WATER RESOURCE MANAGEMENT

January 30, 2002
Honolulu, Hawaii

Waiahole Ditch Combined Contested Case Hearing
Report and Recommendations of the Funding Committee
for Studies and Monitoring Activities and to Coordinate and Set Up the Mechanism for the
Collection, Accounting, and Distribution of Funds

BACKGROUND:

The Commission on Water Resource Management (Commission) in its December 1997 Waiahole Ditch Combined Contested Case Hearing, Findings of Fact, Conclusions of Law, and Decision and Order (Waiahole Decision and Order), required "permittees on whose lands the water from the Waiahole Ditch system is used" to help fund studies and monitoring activities resulting from the Waiahole Decision and Order. The Commission also provided for the establishment of a committee to "recommend a reasonable amount for the funding, and coordinate and set up the mechanism for the collection, accounting, and distribution of the funds". The Commission further provided that the funding "shall be based on the amount of water used and shall be on a pro rata basis".

The Hawaii Supreme Court's August 22, 2000 decision (Supreme Court Decision) upheld the Commission's general authority to condition the permits upon compliance with the funding requirements.

The Commission, on May 16, 2001, appointed Messrs. Richard Cox and Peter Adler to the Funding Committee. Mr. Cox is a former commissioner and sat on the Commission throughout the original Waiahole Ditch Combined Contested Case Hearing. Mr. Adler has often participated in Commission activities and recently served as the hearing officer for the Kukui (Molokai), Inc. contested case hearing.

Prior to the establishment of the Funding Committee, Commission staff met on several occasions to discuss how to determine “reasonable” costs, what types of studies and monitoring activities may be involved, general mechanisms for the collecting, accounting, and distribution of funds, and the make up of the Funding Committee. In March, 2001, staff met with representatives from the Department of Agriculture, the Waiahole Water System – the operator of the Waiahole Ditch System, and the Waiahole water use permittees, to discuss “reasonable” costs.

The Funding Committee held its first meeting on July 27, 2001. The format of the meeting was a round table discussion, open to the public. Notice of the meeting was sent to all the parties in the case, any interested member of the public that requested notification, and was announced in the Commission’s Monthly Bulletin and on its web site. The Funding Committee invited Messrs. James Parham and Alfredo Lee to make presentations to open the round table discussion. Mr. Parham is under contract with the State Division of Aquatic Resources of the Department of Land and Natural Resources and presented an update of his Geographic Information System (GIS) modeling efforts related to the Waiahole case. Mr. Lee is with the Agribusiness Development Corporation (ADC), in charge of the Waiahole Water System, and gave an overview of the system and its operation. Staff presented a very preliminary stream assessment budget, developed in coordination with the Division of Aquatic Resources, to give examples of the types of studies and monitoring activities that may be required as part of the Waiahole Decision and Order. A few of the many opinions offered during the round table session, and comments received by fax (see Attachment A) after the session included:

1. the total cost of the studies and monitoring activities needs to be determined first, before determining the portion the permittees need to pay;
2. the Commission must know what studies are going to be done;
3. the design of the studies should be subject to public discussion;
4. the studies should not be limited to stream systems;
5. the studies should not be limited or “driven” by the amount of money available;
6. the permittees should contribute toward watershed studies;
7. a two-person committee is not going to work;
8. the United States Geological Survey (USGS) should be included as a “real partner”;
9. the Preliminary Report of the Aquatic Resources Technical Advisory Committee, May 21, 1999, should be used to determine the range of studies to be done;
10. this process is premature because the users of water have not yet been finally determined.

The Funding Committee held its second meeting on September 24, 2001. The main purpose of the second meeting was to hear testimony from the water use permittees and users of water from the Waiahole Ditch System. The Funding Committee was interested in hearing what the permittees and users believed “a reasonable amount” should be to help fund the studies and monitoring activities. Testimony was presented by the President of the Kunia Water Cooperative (KWC), as well as by others representing the permittees. Other interested parties also presented testimony. Some of the opinions offered included:

1. there is no federal support system for the KWC; the KWC would consider a 5 to 10% increase of the average state water charges (state irrigation systems range from \$0.25 to \$0.3653 per 1000 gallons) as “reasonable”;
2. the permittees and users do not want to be “guinea pigs” regarding stream studies;
3. fees should be for Waiahole-related streams only;
4. fees should be only for a reasonable period of time – not open-ended (KWC does not “expect this increased monthly contribution to extend over more than 2 to 3 years, or the time to actually implement a science-based protocol”);
5. studies for water reuse should be included;
6. studies should not be limited to streams only;
7. need to hear from other permittees before setting the rate.

The Funding Committee announced at the end of the meeting, and in the notices in the Monthly Bulletin and web site, that the public was invited to submit written testimony until October 8, 2001.

Kamehameha Schools (see Attachment B) and the KWC (see Attachment C) submitted written testimony by the October 8 deadline. Kamehameha Schools restated its belief that it should not be responsible for funding any portion of the proposed studies. The KWC stated that they would consider a 5 to 10% increase on the average state water charges for surface water assessed on their actual use, as a reasonable amount, provided the funds are used to implement scientific protocols previously developed by competent scientists, not to fund any basic research in determining those protocols. KWC further stated that they did not expect the contributions to extend over more than 2 to 3 years, or the time to actually implement a science-based protocol.

GENERAL PRINCIPLES:

In analyzing these issues, the committee approached this task by first laying out several general principles:

1. Define the studies first or determine “reasonable amount” first?

A major issue that arose is should the scope and cost of studies and monitoring activities resulting from the Commission’s Decision and Order be determined before the Funding Committee makes a decision as to what portion the permittees should pay; or, should we first determine what is a reasonable amount for the permittees to pay, then determine what studies can be done with that amount? It may be difficult to precisely define the type and scope of studies and monitoring activities that should be done. Part of the difficulty can be attributed to a multiplicity of scientific opinion on the subject and another factor is the relative newness of the field. Scientific studies are rarely as definitive as may be hoped for and may need to be revised or augmented as data and analyses unfold.

From our preliminary estimates, the costs to do studies and monitoring activities related to determining and refining the instream flow standards for Waiahole-related streams will generally be more than what can be reasonably expected to be funded by the permittees.

Therefore, we recommend first determining a “reasonable amount” and not waiting until the final scope and cost of all studies and monitoring activities are fully determined.

2. Keep the funding assessment relatively low and continued over a long period, rather than high for a short period.

The testimony given at the Funding Committee’s second meeting by Stephanie Whalen, president of the Kunia Water Cooperative, favored the collection of fees for a “reasonable period of time”, rather than on a continuing basis without any time limits. The Committee believes that there are at least two ways to approach the matter. The first is to require high fees for a short time from the start, to pay for the studies and monitoring activities. The second is to require lower fees, collected over a longer period. Since the final scope and cost of the studies and monitoring activities have not yet been determined, we recommend that the assessments be on-going, at a comparatively lower rate, and subject to defined periods of review and adjustment by the Commission until such time as the interim instream flow standards are modified or permanent instream flow standards are established.

Rather than recreate the wheel, the Commission recommends looking at the study proposals contained in the Aquatic Resources Technical Advisory Committee Report as a starting point.

3. The entire burden of the costs of the studies does not fall on the permittees.

The Commission has determined, in the Waiahole Decision and Order, that the permittees are to pay a “portion of the studies and monitoring activities resulting from this order.” The Commission, with the assistance of its Technical Advisory Committees (TACs), will be ultimately responsible for determining the final scope and nature of studies to be done. However, in the interim the Funding Committee has identified three kinds of Waiahole studies which we believe will be needed over the next decade: (1) pure baseline and monitoring studies; (2) studies that are required for purposes of stream assessment; and (3) studies that bring additional analysis, refinement, and interpretation to the data collected. Given the nature of these studies, the entire burden of the costs should not fall upon the permittees alone. The costs of essential and related studies must be shared with other federal, state, or local agencies, or private groups that have a stake in resource management and improved water science. Except for ongoing stream gaging, the permittees’ burden of the cost for science-based studies should terminate upon the establishment of permanent instream flow standards or modification of the interim instream flow standards.

4. Studies and monitoring activities shall be connected to Waiahole-related streams.

Because the Waiahole Water System takes the majority of its water from windward Oahu that would otherwise flow into windward Oahu streams, the studies and monitoring activities funded by these fees will be used to help establish instream flow standards for windward streams included in the Waiahole Decision and Order.

DISCUSSION:

1. Determining a reasonable amount for the funding assessment.

The Waiahole Decision and Order required permittees to help fund the studies and monitoring activities. Realistically, however, the lessees/users of the water (as distinguished from the water use permittees) will most likely end up paying for the studies and monitoring activities. Therefore, we believe the definition of “reasonable” for this specific case and circumstances, should consider what is “reasonable” to the farmers who actually pay for and use the water for agriculture. The members of the Kunia Water Cooperative (KWC) were asked what they considered “reasonable.” They provided written testimony that they would consider as “reasonable” a 5 to 10% increase of the average state water charges for surface water assessed on their actual water use. The user rates for state irrigation systems, including the Waiahole Water System, range from \$0.25 to \$0.3653 per 1,000 gallons of water. Based on an average rate of \$0.31 per 1,000 gallons of water, an increase of 5% would be \$0.0155 per 1,000 gallons, and an increase of 10% would be \$0.031 per 1,000 gallons. The KWC also gave reasons why they did not expect the funding “to extend over more than 2 to 3 years, or the time required to actually implement a science-based protocol.” Although the input from KWC was important, the Commission realizes that its recommendation must not be based solely on what the users think is reasonable but on the totality of the circumstances.

2. Estimating the costs of the studies and monitoring activities.

Determining the instream flow standard for any Hawaiian stream is a complex matter. Likewise, estimating costs for studies and monitoring activities related to determining the instream flow standard is complex. There is no standard method for determining instream flow standards. The State Water Code’s definitions of instream flow standard and instream use from §174C-3, Hawaii Revised Statutes are:

“Instream flow standard” means a quantity or flow of water or depth of water which is required to be present at a specific location in a stream system at certain specified times of the year to protect fishery, wildlife, recreational, aesthetic, scenic, and other beneficial instream uses.

“Instream use” means beneficial uses of stream water for significant purposes which are located in the stream and which are achieved by leaving the water in the stream. Instream uses include, but are not limited to:

- (1) Maintenance of fish and wildlife habitats;***
- (2) Outdoor recreational activities;***
- (3) Maintenance of ecosystems such as estuaries, wetlands, and stream vegetation;***
- (4) Aesthetic values such as waterfalls and scenic waterways;***
- (5) Navigation;***
- (6) Instream hydropower generation;***
- (7) Maintenance of water quality;***

- (8) *The conveyance of irrigation and domestic water supplies to downstream points of diversion; and*
- (9) *The protection of traditional and customary Hawaiian rights.*

Because there are no such instream flow standards, and because the Commission has unsuccessfully attempted to use continental United States methods, finding they generally do not work for our island stream conditions, there are varying opinions, even among the experts, as to the approach the Commission should take to set our own instream flow standards. Therefore, whenever the issue of setting instream flow standards is raised, there is no lack of suggestions as to what courses of action the Commission should take or what kinds of studies should be done. The process of determining which studies to undertake has been a time-consuming process, and is more of a work-in-progress activity where the Commission is discovering new methods and techniques as the Commission finds out more about the resource. Complicating matters even more are the multiple issues raised by the multiple uses included in the definition of instream use. These factors have made it difficult to determine what studies need to be done. The only guidance given by the original Waiahole Decision and Order was that the Funding Committee's task was to recommend a "reasonable amount for the funding."

The Funding Committee asked staff to review the recommendations of the Technical Advisory Committees (TACs) and consult with the DAR and the USGS to put together a "ballpark" estimate on the costs of the studies and monitoring activities relating to the Waiahole Decision and Order.

- a. Staff looked at the suggestions and recommendations of the Technical Advisory Committees (TAC) established earlier by the Commission through the Waiahole Decision and Order. The following were considered:
 - 1) On-going baseline monitoring for Waiahole, Waianu, Waikane, Hakipuu, and Kahana streams to include, but not be limited to: 1) recruitment and reproduction of native stream animals; 2) alien species; 3) adult native species; 4) algae; 5) invertebrates (from Aquatic Resources TAC). The Aquatic Resources TAC or the Commission staff may recommend additional studies to the Commission.
 - 2) Establish stream gages to record discharge measurement and also include: 1) conductivity; 2) temperature; 3) turbidity (from Aquatic Resources TAC).
 - 3) Routine/on-going verification of the accuracy of gage datum, stage-discharge rating curves, and discharge computational procedures (from Hydrology & Engineering/Agriculture TAC).

- 4) Consider additional release points (from Hydr&Engr/Agr TAC) Release to Waikane Stream will most likely be mandated by the Final Decision and Order.
 - 5) Information Clearinghouse (IC) – set aside money for equipment and part-time staff support to operate and maintain the IC (from Aquatic Resources TAC).
- b. Staff also consulted with the USGS and DAR:
- 1) The USGS, in cooperation with various other agencies, has in the past conducted detailed hydrologic studies and monitoring activities of windward Oahu streams, including Waiahole-related streams. In Addition, the USGS presently conducts hydrologic monitoring in cooperation with ADC and the Commission. Information from these past and present studies and monitoring activities should be integrated into DAR modeling efforts.
 - 2) DAR has been conducting baseline monitoring and other activities in windward Oahu streams related to their statewide modeling efforts. There have been other agencies and individuals that have also been doing related work in various windward Oahu streams. Data from all baseline and other pertinent studies of Waiahole-related streams should be integrated into DAR's modeling efforts.
- c. If there are any areas of study and/or information needs that have been pointed out by most recent investigations and modeling efforts, they should be considered and, if appropriate, added to the list of proposed projects. These could be limited duration or long-term studies, subject to Commission approval, with deadlines and review procedures.
3. Mechanism for the collecting, accounting, and distribution of the funds.

The Funding Committee and staff initially considered requiring the Waiahole Water System to collect the fees since they already have the mechanism for collecting fees from the water users. However, the Waiahole Water System presently collects fees from the lessees who use the water, not from the water use permittees themselves. The present Waiahole Water System collection mechanism would not be suitable for the proper collection of stream study funding. Staff has met with the Department's Fiscal Office staff and has determined that the Commission staff can collect, account for, and distribute the funds using existing accounts and mechanisms. Details need to be worked out with our Fiscal Office, the Department of Budget and Finance, the Department of Accounting and General Services, and the parties involved.

4. System Losses.

The Commission, in the Waiahole Decision and Order, recognized that operational losses occur and an allowance was made for operational losses from evaporation and leakage, as well as losses due to other operational requirements of the system. The Commission required the “permittees on whose lands the water from the Waiahole Ditch system is used” to fund the studies and monitoring activities. We do not consider operational losses to be a “use” in the normal sense of the word. Nor do we consider ADC as having lands on which Waiahole Ditch water is used. We believe that system losses are a normal component of any water system, and that ADC should not have to pay for the studies and monitoring activities. However, the Commission may at their discretion consider charging ADC for any losses over their allocation, if losses from the system exceed their allocation for such losses.

RECOMMENDATIONS:

1. That a reasonable amount be established without waiting for final determination of the study scope and costs and that such reasonable amount be set, at a rate of \$0.025 per 1,000 gallons of water used, for the permittees on whose lands the water from the Waiahole Ditch system is used.
2. That except for ongoing stream gaging, the permittees’ burden of the cost for science-based studies should terminate upon the establishment of permanent instream flow standards. And further, the attached tables (Tables 1 through 3C) shall serve as guidelines for use and distribution of the funds.
3. That the appropriate Technical Advisory Committees should be reconvened to recommend additional studies when necessary.
4. That ADC should not be required to pay for system losses. However, if system losses exceed the allocation by an amount deemed significant by the Commission, the Commission may, after a hearing on the matter, require payment based on the amount of losses over the allocation.
5. That the Commission staff should collect the funds on a quarterly basis, account for the funds, and distribute the funds. At the end of each quarter (March, June, September, and December), Commission staff should process the data submitted by ADC and send statements to the permittees for payment. The Commission staff will have 30 calendar days from the end of the quarter to prepare and send out the statements. The permittees will have thirty calendar days following receipt of the statements to pay the amounts indicated. If necessary, the Commission staff may request reimbursement up to 5% of the amount collected for accounting and administration expenses.
6. That the Commission should review the “reasonable amount”, and accounting and distribution procedures no earlier than two and no later than three years. The

USGS and DAR should provide updates of the hydrologic and biologic studies and monitoring activities described in these proceedings.

Respectfully submitted,

PETER S. ADLER

RICHARD H. COX

Table 1	Approximate Costs of the Studies and Monitoring Activities
Table 2	Waiahole Projected Revenue and Water Use (in million gallons per day, mgd)
Table 3A	Funding Projection at 5% (\$0.0155/1,000 gals) of Average Rate
Table 3B	Funding Projection at 8.1% (\$0.025/1,000 gals) of Average Rate
Table 3C	Funding Projection at 10% (\$0.031/1,000 gals) of Average Rate
Attachment A	Comments from Dr. James Anthony
Attachment B	Comments from Kamehameha Schools
Attachment C	Comments from the Kunia Water Cooperative

APPROXIMATE COSTS OF THE STUDIES AND MONITORING ACTIVITIES, WAIHAOLE CCH

TABLE 1

Sheet 1 of 5

Description	Source of Funding	FY 01	FY 02	FY 03	FY 04	FY 05
1. USGS/CWRM Exist. Str. Gage on Waikane Stream 16294900 (a) (b)	50% USGS 50% CWRM	9,500 O & M	9,500 O & M	9,500 O & M	9,500 O & M	9,500 O & M
2. USGS/CWRM Exist. Str. Gage on Kahana Stream 16296500(a) (b)	50% USGS 50% CWRM	9,500 O & M	9,500 O & M	9,500 O & M	9,500 O & M	9,500 O & M
3. USGS/CWRM New Str. Gage on Waiahole Stream (a)	50% USGS 50% unfunded	12,000 Constr.	9,500 O & M	9,500 O & M	9,500 O & M	9,500 O & M
4. USGS/CWRM New Str. Gage on Hakipuu Stream (a)	50% USGS 50% unfunded	NA	9,500 Constr.	9,500 O & M	9,500 O & M	9,500 O & M
5. USGS/CWRM Low Flow Measurements on Various Windward Oahu Strs. (a) (c)	50% USGS 25% CWRM 25% unfunded	NA	36,000	36,000	NA	NA
6. USGS/CWRM Seepage Runs on Various Windward Oahu Strs. (a) (c)	50% USGS 25% CWRM 25% unfunded	NA	12,000	12,000	NA	NA
7. USGS/CWRM Hydrograph-Separation Analysis & Base Flow Computations and report (a) (c)	50% USGS 25% CWRM 25% unfunded	NA	28,000	28,000	NA	NA
8. DAR Biological Stream Survey (d)	50% DAR 50% unfunded	NA	78,500	101,000	61,000	56,000
9. DAR GIS Modeling & Database (d)	50% DAR 50% unfunded	NA	50,000	50,000	70,000	70,000
Subtotal of Full Costs	NA	31,000	242,500	265,000	169,000	164,000
(a) Less USGS 50% matching funds	NA	(15,500)	(57,000)	(57,000)	(19,000)	(19,000)
(b) Less CWRM 50% participation	NA	(9,500)	(9,500)	(9,500)	(9,500)	(9,500)
(c) Less CWRM 25% participation	NA	(0)	(19,000)	(19,000)	(0)	(0)
(d) Less DAR 50% participation	NA	(0)	(64,250)	(75,500)	(65,500)	(63,000)
Unfunded Balance	NA	6,000	92,750	104,000	75,000	72,500

WAI AHOLE PROJECTED REVENUE AND WATER USE (in million gallons per day, mgd)**TABLE 2****Sheet 2 of 5**

	Actual FY 00	Projected FY 01	Projected FY 02	Projected FY 03	Projected FY 04	Projected FY 05
Current Estimate of Water Use (mgd)	5.31	5.02	5.22	5.43	5.65	5.88
% increase in water use over previous year		-5%	4%	4%	4%	4%
At 5% (\$0.0155/1,000 gals) - Projected Revenue			\$29,500	\$30,700	\$31,900	\$33,200
At 8.1% (\$0.025/1,000 gals) - Projected Revenue			\$47,600	\$49,500	\$51,600	\$53,700
At 10% (\$0.031/1,000 gals) - Projected Revenue			\$59,100	\$61,400	\$63,900	\$66,500

Average Rate (range of \$0.25 to \$0.3653/1,000 gallons) for State Irrigation Systems =
\$0.31/1,000 gals

If 5% of average rate is reasonable then = \$0.0155/1,000 gals

If 8.1% of average rate is reasonable then = \$0.025/1,000 gals

If 10% of average rate is reasonable then = \$0.031/1,000 gals

Typical Computation:

FY 02 At 5%

5.22 mgd x \$0.0155/1,000 gals = \$80.91/day

\$80.91/day x 365 days/yr. = \$29,532/yr.

Rounded to nearest \$100 = \$29,500/yr.

*ADC provided projections up to FY 06.

FUNDING PROJECTIONS FOR THE STUDIES AND MONITORING ACTIVITIES, WAIAHOLE CCH**TABLE 3A – 5% of Average Rate as Reasonable Assessment****Sheet 3 of 5**

Description	FY 02	FY 03	FY 04	FY 05
Balance Carried Forward	0	-63,250	-136,550	-179,650
Projected Revenues from Waiahole Permittees (5%)	29,500	30,700	31,900	33,200
Less Unfunded Balance from Table 1	(92,750)	(104,000)	(75,000)	(72,500)
Ending Balance	-63,250	-136,550	-179,650	-218,950

ESTIMATED ANNUAL COST TO WAIAHOLE PERMITTEES AT 5% RATE

Example:

Sept. 24 – Oct. 28, 2001 Report

<u>Permittee:</u>	<u>Use</u>	<u>5% Rate</u>	<u>Cost per Year</u>
State Lands (Waiawa Corr.)	0.051	\$0.0155/1,000 gals	\$ 289
Bishop Lands	0.019	\$0.0155/1,000 gals	\$ 107
Castle & Cooke Lands	2.039	\$0.0155/1,000 gals	\$11,536
Robinson Estate Lands	1.111	\$0.0155/1,000 gals	\$ 6,285
Nihonkai	0.194	\$0.0155/1,000 gals	\$ 1,098
Campbell Estate Lands	1.585	\$0.0155/1,000 gals	\$ 8,967
Puu Makakilo	0.020	\$0.0155/1,000 gals	\$ 113
Total	5.019	\$0.0155/1,000 gals	\$28,395

FUNDING PROJECTIONS FOR THE STUDIES AND MONITORING ACTIVITIES, WAIAHOLE CCH**TABLE 3B – 8.1% of Average Rate as Reasonable Assessment****Sheet 4 of 5**

Description	FY 02	FY 03	FY 04	FY 05
Balance Carried Forward	0	-45,150	-99,650	-123,100
Projected Revenues from Waiahole Permittees (8.1%)	47,600	49,500	51,600	53,700
Less Unfunded Balance from Table 1	(92,750)	(104,000)	(75,000)	(72,500)
Ending Balance	-45,150	-99,650	-123,100	-141,900

ESTIMATED ANNUAL COST TO WAIAHOLE PERMITTEES AT 8.1% RATE

Example:

Sept. 24 – Oct. 28, 2001 Report

Permittee:	Use	8.1% Rate	Cost
State Lands (Waiawa Corr.)	0.051	\$0.025/1,000 gals	\$ 465
Bishop Lands	0.019	\$0.025/1,000 gals	\$ 173
Castle & Cooke Lands	2.039	\$0.025/1,000 gals	\$18,606
Robinson Estate Lands	1.111	\$0.025/1,000 gals	\$10,138
Nihonkai	0.194	\$0.025/1,000 gals	\$ 1,770
Campbell Estate Lands	1.585	\$0.025/1,000 gals	\$14,463
Puu Makakilo	0.020	\$0.025/1,000 gals	\$ 183
Total	5.019	\$0.025/1,000 gals	\$45,798

FUNDING PROJECTIONS FOR THE STUDIES AND MONITORING ACTIVITIES, WAIAHOLE CCH**TABLE 3C – 10% of Average Rate as Reasonable Assessment****Sheet 5 of 5**

Description	FY 02	FY 03	FY 04	FY 05
Balance Carried Forward	0	-33,650	-76,250	-87,350
Projected Revenues from Waiahole Permittees (10%)	\$59,100	\$61,400	\$63,900	\$66,500
Less Unfunded Balance from Table 1	(92,750)	(104,000)	(75,000)	(72,500)
Ending Balance	-33,650	-76,250	-87,350	-93,350

ESTIMATED ANNUAL COST TO WAIAHOLE PERMITTEES AT 10% RATE

Example:

Sept. 24 – Oct. 28, 2001 Report

<u>Permittee:</u>	<u>Use</u>	<u>10% Rate</u>	<u>Cost</u>
State Lands (Waiawa Corr.)	0.051	\$0.031/1,000 gals	\$ 577
Bishop Lands	0.019	\$0.031/1,000 gals	\$ 215
Castle & Cooke Lands	2.039	\$0.031/1,000 gals	\$23,071
Robinson Estate Lands	1.111	\$0.031/1,000 gals	\$12,571
Nihonkai	0.194	\$0.031/1,000 gals	\$ 2,195
Campbell Estate Lands	1.585	\$0.031/1,000 gals	\$17,934
Puu Makakilo	0.020	\$0.031/1,000 gals	\$ 226
Total	5.019	\$0.031/1,000 gals	\$56,789